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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,997	03/16/2004	William J. Begley	87887AEK	3335

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Rochester, NY 14650-2201

EXAMINER

GARRETT, DAWN L

ART UNIT	PAPER NUMBER
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1774

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/801,997

Applicant(s)

BEGLEY ET AL.

Examiner

Dawn Garrett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) 2-5 and 9-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33, 41, 42 and 45-47 is/are rejected.
- 7) ☒ Claim(s) 34-40, 43, 44 and 48-52 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This Office action is responsive to the amendment filed November 8, 2006. Claims 15, 25, 35, and 49 were amended. Claims 1-52 are pending. Applicant previously elected the following species without traverse:

A naphthacene compound of Formula I where R2 and R4 are aryl and R1, R3, R5, and R6 are alkyl and with the ultimate species = Inv 2 at page 15;

A blue emitter of category (c) with ultimate species = B-6 at page 59;

A green emitter of category (a) with ultimate species = L30 at page 53.

The examiner is withdrawing the requirement for the blue and green emitters in this Office action. Claims 1, 6- 8, and 13-52 appear to read upon the elected naphthacene species. Claims 2-5 and 9-12 are withdrawn as non-elected.

2. The terminal disclaimer filed on November 8, 2006 disclaiming the terminal portion of any patent granted on this application, which would extend beyond the expiration date of U.S. 6,967,062; 7,037,601; and 6,875,524 has been reviewed and is accepted. The terminal disclaimer has been recorded.

3. The rejections of claims 15, 21, 25, 40, and 49-50 under 35 U.S.C. 112, second paragraph, set forth in the last Office action (mailed September 15, 2006) are withdrawn.

4. The rejection of claims 1, 6, 7, 13-17, 21-37, 40-47, 49, and 52 under 35 U.S.C. 103(a) as being obvious over Hatwar et al. (US 6,967,062) is withdrawn.

5. The double patenting rejections over U.S. Patent Nos. 6,967,062; 7,037,601; and 6,875,524 set forth in the last Office action are withdrawn due to the terminal disclaimer.

Claim Objections

6. Claim 15 is objected to because of the following informalities: The word “wheein” should be changed to “wherein”. Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claim 45 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 45 recites “the individual pixels”; however, pixels are not previously set forth or described. Accordingly, the structure recited in claim 45 is unclear. Clarification and/or correction are required.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 6-8, 13-18, 24-33, 41, 42, 46, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuura et al. (US 5,503,910) in view of Sato et al. (JP 04-335087). Matsuura teaches organic light emitting devices having first and second emitting layers (see abstract). Matsuura teaches a bluish layer and a reddish/yellow layer (see col. 3, lines 11-19). There may be a layer with a hole transporting material and may emit in the 580nm to 650nm

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range per the "hole transporting layer" (see col. 3, lines 20-28). The reference teaches rubrene as a dopant (see col. 61, bottom compound). The device further includes an electron transporting layer (see col. 66, lines 49-56).

Per claims 15-17, the amount of rubrene compound used in the layer is 0.1-10 mol % (see col. 61, lines 54-58).

Per claim 18, see col. 37-40 for styryl compounds for the blue emitting layer.

The layer comprising the reddish emitting compound (which can be hole transporting as set forth above) is around 40 nm in thickness (see col. 67, lines 35-37) per claim 24.

Per claim 25, a further hole transporting layer may be formed (see Examples, col. 67, lines 19-31).

Per claim 27, the second light emitting layer is around 20 nm in thickness (see col. 67, lines 48-49).

Per claim 28 a hole injecting layer may be formed (see col. 64, lines 21-33).

Per claim 29, CuPc may be included (see col. 65, lines 30-40).

Per claim 30, the thickness may be 1 nm to 10 micrometers (see col. 66, lines 4-6).

Per claim 31, the electron transporting layer may be 1 nm to 10 micrometers (see col. 66, lines 54-56).

Per claim 32, magnesium and silver alloy cathodes are taught (see col. 68, lines 2-3).

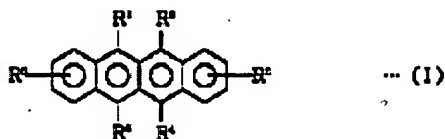
Per claim 33, the cathode may be transparent (see col. 63, lines 17-20).

Per claims 41 and 47, there may be a layer of metal phthalocyanines adjacent the cathode (see col. 66, lines 39-41). Per claim 42, the thickness of such a layer is 1 nm to 10 micrometers (see col. 66, lines 54-56).

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Per claim 46, hole transporting material includes arylamines (see col. 64, lines 34-55).

Matsuura fails to teach the specific rubrene species currently under consideration, but does teach compounds such as rubrene are appropriate. Sato teaches in analogous art naphthacene derivatives of the following formula for an EL device:



R1-R4 may include alkyl or substituted aromatic hydrocarbon groups and R5 and R6 may include alkyl groups (see abstract). Although Sato fails to specify an aryl group as a possible substituent group for the aromatic hydrocarbon group, aryl groups are well known as substituents. It would have been obvious to one of ordinary skill in the art to have formed the Matsuura device using the rubrene derivatives taught by Sato in place of the rubrene taught in Matsuura, because one would expect the rubrene derivatives to be similarly useful as a light emitting material for the Matsuura device.

Double Patenting

11. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned

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with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

12. Claims 1-17, 23, and 26 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-35 of U.S. Patent No. 7,087,320. Although the conflicting claims are not identical, they are not patentably distinct from each other because although '320 does not set forth the blue light emitting material in a separate layer from the rubrene derivative containing layer, it would have been obvious to have made a separate emitting layer as a design choice. The previous claims encompass the limitations of the present application.

13. Claims 1-17, 23, and 26 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-31 of U.S. Patent No. 7,052,785. Although the conflicting claims are not identical, they are not patentably distinct from each other because although '785 does not set forth the blue light emitting material in a separate layer from the rubrene derivative containing layer, it would have been obvious to have made a separate emitting layer as a design choice. The previous claims encompass the limitations of the present application.

14. Claims 1-17, 23, and 26 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-28 of U.S. Patent No. 7,083,865. Although the conflicting claims are not identical, they are not patentably distinct from each other because although '865 does not set forth the blue light emitting material in a separate layer from the rubrene derivative containing layer, it would have been obvious to have made a separate emitting

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layer as a design choice. The previous claims encompass the limitations of the present application.

15. Claims 1-23 and 26 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-22, 27-29, and 31-36 of copending Application No. 10/801,288. Although the conflicting claims are not identical, they are not patentably distinct from each other because although '288 does not set forth the blue light emitting material in a separate layer from the rubrene derivative containing layer, it would have been obvious to have made a separate emitting layer as a design choice. The previous claims encompass the limitations of the present application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Allowable Subject Matter

16. Claims 19-23, 34-40, 43-45, and 48-52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The closest prior art, Matsuura (discussed above), fails to teach the limitations of these claims in combination with the other required limitations.

Response to Arguments

17. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dawn Garrett whose telephone number is (571) 272-1523. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached at (571) 272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Dawn Garrett
Primary Examiner
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